RECLAMATION

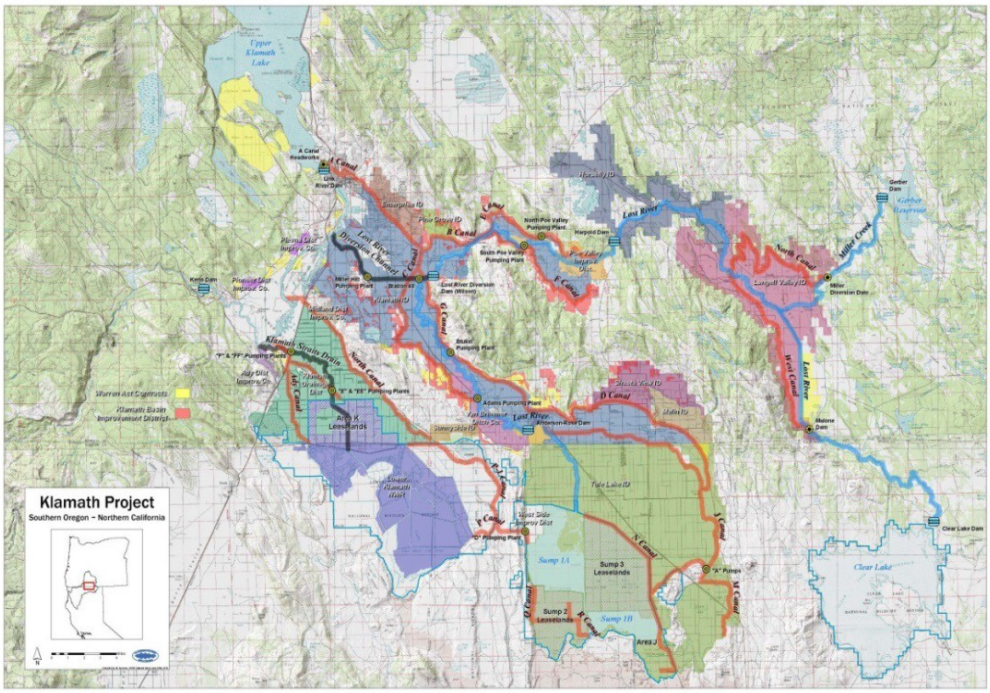
Managing Water in the West

Environmental Assessment

Five-Year Contracts for Conveyance of Non-Project Water within Klamath Project Irrigation Facilities – Contract Years 2015 – 2019

Oregon and California

2015-EA-006



U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
Klamath Basin Area Office

May 2015

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Contents

Mission Statements **2**
Section 1: Introduction and Background Information **5**
1.1 Introduction 5
1.2 Background 5
1.3 Need for the Proposal 6
Section 2: Alternatives **6**
2.1 Introduction 6
2.2 No Action Alternative 6
2.3 Proposed Action 6
Section 3: Affected Environment & Environmental Consequences **7**
3.1 Water Resources 7
3.1.1 Affected Environment 7
3.1.2 Environmental Consequences 7
3.1.3 Cumulative Impacts 9
3.2 Biological Resources 9
3.2.1 Affected Environment: 9
3.2.2 Environmental Consequences 13
3.2.3 Cumulative Impacts 13
3.3 Socioeconomic Resources 13
3.3.1 Affected Environment 13
3.3.2 Environmental Consequences 14
3.4 Cultural Resources 15
3.4.1 Affected Environment 15
3.4.2 Environmental Consequences 15
3.4.3 Cumulative Impacts: 15
3.5: Indian Trust Assets 16
3.5.1 Affected Environment: 16
3.5.2 Environmental Consequences 16

3.5.3 Cumulative Impacts 16
3.6 Greenhouse Gas and Climate Change 17
3.6.1 Affected Environment 17
3.6.2 Environmental Consequences 17
3.6.3 Cumulative Impacts 18
3.7 Environmental Justice 18
3.7.1 Affected Environment 18
3.7.2 Environmental Consequences 18
3.7.3 Cumulative Impacts 19
3.8 Indian Sacred Sites 19
3.9 Environmental Commitments 19
Section 4 Consultation and Coordination 20
4.1 Public Review Period 20
4.2 Persons or Agencies Consulted During Development of EA 20
Section 5 References 20
Appendix A: Map - Klamath Project Districts for Excess Capacity Contracts 22
Appendix B:Cultural Resources Coordination and Compliance 23
Appendix C: Indian Trust Asset Coordination and Consultation 25
Appendix D: Water Quality Standards and Testing 27

Section 1: Introduction and Background Information

1.1 Introduction

The Bureau of Reclamation, Klamath Basin Area Office (KBAO) is proposing to enter into contracts with three irrigation districts for the use of excess capacity in Klamath Project facilities for storage and conveyance of "Non-Project" water acquired or obtained for private use. The three proposed contracting entities are the Klamath Irrigation District (KID), Tulelake Irrigation District (TID), and Langell Valley Irrigation District (LVID; collectively the Districts) (Please refer to map in Appendix A). These Districts operate and maintain certain Klamath Project facilities under existing agreements with Reclamation. The proposed contracts would allow the Districts to convey Non-Project water for private use, if and when excess storage and conveyance capacity exists within Klamath Project facilities.

1.2 Background

The Districts are currently under contract with Reclamation to operate and maintain various federally-owned water distribution works that are part of the Klamath Project. When drought conditions limit the availability of surface water for lands within the Klamath Project, supplemental water supplies, such as groundwater, can potentially be used to help meet irrigation water demands. The proposed excess capacity contracts would allow the Districts to facilitate the use of supplemental water supplies by allowing these entities to temporarily use Reclamation facilities for the storage and conveyance of Non-Project water.

The Warren Act (Act of February 21, 1911, Ch. 141, 36 Stat. 925, 43 U.S.C. §§523-525) authorizes Reclamation to contract with irrigation entities for the use of excess storage and/or conveyance in Federal Reclamation facilities. This type of contract is commonly called an "excess capacity contract."

This Environmental Assessment (EA) evaluates the potential effects of the proposed action to enter excess capacity contracts with the Districts to convey Non-Project water through Klamath Project facilities for a five-year period, from 2015 through 2019. The proposed use of excess capacity would occur during the spring-summer irrigation season, and would not exceed the Districts' irrigation season as outlined in their contracts. This evaluation describes the existing environmental resources in the area where the proposed action would be implemented, analyzes the potential effects of the No Action and the Proposed Action Alternatives on these resources, and proposes measures to avoid, minimize, or mitigate adverse effects, if any, for the execution of excess capacity contracts.

This EA was prepared in accordance with the National Environmental Policy Act, Council of Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Department of the Interior regulations (43 CFR Part 46).

1.3 Need for the Proposal

The Klamath Basin has experienced drought conditions over the past several years, which have resulted in shortages of surface water supplies for lands within the Klamath Project. Similar drought conditions are likely to affect surface water supplies in the future. The excess capacity contracts are needed to provide a mechanism for Klamath Project water users to store and/or convey Non-Project water supplies in Klamath Project facilities.

Section 2: Alternatives

2.1 Introduction

This EA considers two possible actions including the No Action Alternative and the Proposed Action. The No Action Alternative reflects conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment as a result of implementing the Proposed Action.

2.2 No Action Alternative

Under the No Action Alternative, Reclamation would not execute and issue excess capacity contracts for the conveyance of Non-Project water in Klamath Project facilities. Reliant irrigation districts and Klamath Project water users would be confined to either using available surface water supplies provided under their respective water service contracts with Reclamation or obtaining Non-Project water by means other than transport through Federal facilities.

2.3 Proposed Action

Under the Proposed Action, Reclamation proposes entering into excess capacity contracts with the Districts for a period up to five years, beginning in 2015 and concluding in 2019. The proposed contracts would not identify a specific quantity of Non-Project water to be conveyed through Reclamation facilities, but rather constrain such use to the available excess capacity within Klamath Project facilities and the typical irrigation season outlined in the Districts contracts.

The Non-Project water conveyed under the excess capacity contracts would be used for irrigation purposes on lands with a contract or agreement to receive water from the Klamath Project. Pumping and conveyance would be limited to use of existing wells, meters, pipes, water diversion, and field delivery facilities, and no new construction would occur.

Section 3: Affected Environment & Environmental Consequences

This EA will evaluate the potential effects of the Proposed Action on the following resources:

- Water Resources
- Biological Resources
- Socioeconomic Resources
- Cultural Resources
- Indian Trust Assets
- Greenhouse Gas and Climate Change
- Environmental Justice

3.1 Water Resources

3.1.1 Affected Environment

The water resources potentially affected would be groundwater and surface water resources. Groundwater resources could be affected when contractors pump groundwater from private wells and convey it through Klamath Project facilities under the proposed excess capacity contracts. Surface water could be affected when private pumped groundwater is pumped into Klamath Project facilities under excess capacity contracts and mixes with Klamath Project surface water supplies being conveyed through the same facilities.

3.1.2 Environmental Consequences

No Action:

Under the No Action Alternative, Reclamation would not enter into excess capacity contracts with the Districts that operate and maintain Klamath Project facilities. Klamath Project facilities would only be used for storage and conveyance of Klamath Project water supplies. In drought conditions, when Klamath Project water supplies are

limited, the Districts and associated Klamath Project water users would not be able to store or convey Non-Project water supplies through Klamath Project facilities, and instead would either have to forego the use of supplemental water supplies or develop an alternative means of storing and conveying the Non-Project water.

Proposed Action:

The analysis of effects on water resources associated with the alternatives was based on potential impacts to groundwater quantity and surface water quantity and quality. Groundwater resources would be used as a result of implementation of the proposed action. Impacts to groundwater quantity would be within those deemed acceptable by groundwater management agencies as contracting irrigation districts would be required to provide confirmation that the proposed pumping of groundwater is compatible with local groundwater management plans and state water law including the groundwater pumping under any appropriate and necessary permits.

Surface water quantity within the Klamath Project canals would be expected to increase as a result of implementation of the proposed project. The amount of increase would be limited to the excess capacity of the canals, compliance with local groundwater management plans and consistent with state water law. Non-Project water stored and/or conveyed through Klamath Project facilities would only be used for irrigation purposes on established lands. Storage and conveyance in Klamath Project facilities would occur through existing wells, meters, pipes, water diversion, and field delivery facilities.

Surface water quality within the Klamath Project canals could be impacted when groundwater is introduced for conveyance in Klamath Project facilities. However, to reduce the potential for the introduction of water with poor water quality into Klamath Project facilities, terms in the excess capacity contract, minimum water quality standards (as outlined in Appendix D), and general monitoring requirements bulleted below would be met.

General requirements regarding water quality testing and monitoring are outlined below:

- Water chemistry sampling would occur monthly with the first sampling occurring prior to discharge of Non-Project water into Klamath Project facilities.
- Instantaneous measurements of physical parameters: temperature, dissolved oxygen, pH, conductivity, and total dissolved solids should occur monthly at the time of water chemistry sampling.
- A temperature probe would be installed in each discharging well that measures temperature continuously (1-hour intervals) throughout the pumping period.
- Flow would also be monitored continuously, if feasible, via the installation of a metering device.

Contracting irrigation districts would be responsible for accurate water measurement and associated costs, as well as assuring the Non-Project water meets water quality standards for acceptance of Non-Project water into Klamath Project facilities as defined in Appendix D and the terms of the proposed contract which would state that Non-

Project water introduced into Project facilities would be of such quality, as determined by the Contracting Officer, as to not degrade the quality of Project water. As part of the contracting requirements, the Districts (or their agent) would perform general monitoring activities as determined by Reclamation for water quality testing on Non-Project water proposed to enter Reclamation facilities. Appendix D outlines water quality standards for acceptance of Non-Project water into Klamath Project facilities in Oregon and California. Also included in Appendix D is a list of approved water quality labs for water quality testing.

Pursuant to the contracting terms, Non-Project water would be required to be tested for approved water quality standards per the terms of the contract, prior to its introduction into Reclamation facilities. Performing this measure would ensure that water transported through the canals does not impair existing uses, including downstream users, or negatively impact existing water quality conditions. The standards outlined in Appendix D and as defined in the excess capacity contracts would ensure that water imported into the facilities does not impair existing water quality conditions.

3.1.3 Cumulative Impacts

Cumulative impacts result from incremental impacts of the Proposed Action or No Action Alternatives when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

As in the past, hydrological conditions and other factors result in fluctuating water supplies that drives requests for water service actions. Annually, Reclamation reviews and approves a myriad of actions related to these water service actions. In some cases, multi-year projects are approved following proper environmental review. Reclamation has determined that the Proposed Action, and attendant environmental water quality and monitoring commitments, would not result in any adverse cumulative impacts to the water resources within the canals or water districts they serve. Furthermore, the Proposed Action would have no significant cumulative impacts on either surface water or groundwater resources.

3.2 Biological Resources

3.2.1 Affected Environment:

Federally listed threatened and endangered species that occur within or near lands served by Klamath Project canals are shown in Tables 1.1-3. The following species lists were obtained April 28, 2015, by accessing the U.S. Fish and Wildlife Service database for species that may occur within Klamath County, Oregon and Modoc and Siskiyou Counties, California: http://www.fws.gov/klamathfallsfwo/es/es.html; (USFWS, 2015).

Table 1.1 Listed, Endangered, Threatened, Proposed, and Candidate Species that May Occur in Klamath County, Oregon

Status: *Endangered*

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	*Deltistes luxatus*	Designated
Fish	Shortnose sucker	*Chasmistes brevirostris*	Designated
Mammal	Gray wolf	Canis lupus	
Plant	Applegate's milk-vetch	*Astragalus applegatei*	
Plant	Green's tuctoria	*Tuctoria greenei*	Designated

Status: *Threatened*

Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	*Strix occidentalis caurina*	Designated
Bird	Yellow-billed cuckoo (Western DPS)	*Coccyzus americanus*	Proposed
Fish	Bull trout (Klamath River DPS)	*Salvelinus confluentus*	Designated
Amphibian	Oregon spotted frog	*Rana pretiosa*	Proposed
Mammal	Canada lynx	*Lynx canadensis*	
Plant	Slender Orcutt grass	*Orcuttia tenuis*	Designated

Status: *Proposed*

Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Fisher (West Coast DPS)	*Pekania pennanti*	

Status: *Candidate*

Phylum	Common Name	Scientific Name
Bird	Greater Sage-grouse	*Centrocercus urophasianus*
Plant	Whitebark Pine	*Pinus albicaulis*

Table 1.2 Listed, Endangered, Threatened, and Proposed, and Candidate Species that May Occur in Siskiyou County, California

Status: *Endangered*

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	*Deltistes luxatus*	Designated
Fish	Shortnose sucker	*Chasmistes brevirostris*	Designated
Invertebrate	Shasta crayfish	*Pacifistacus fortis*	
Plant	Yreka phlox	*Phlox hirsute*	
Plant	Greene's tuctoria	*Tuctoria greenei*	Designated
Plant	Gentner's fritillary	*Fritillaria gentneri*	Designated

Status: *Threatened*

Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	*Strix occidentalis caurina*	Designated
Bird	Yellow-billed cuckoo (Western DPS)	*Coccyzus americanus occidentalis*	Proposed
Amphibian	California red-legged frog	*Rana aurora draytonii*	Designated
Amphibian	Oregon spotted frog	*Rana pretiosa*	Proposed
Plant	Slender Orcutt grass	*Orcuttia tenuis*	Designated

Status: *Proposed*

Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Fisher (West Coast DPS)	*Pekania pennanti*	

Status: *Candidate*

Phylum	Common Name	Scientific Name
Bird	Greater Sage-grouse	*Centrocercus urophasianus*
Plant	Whitebark Pine	*Pinus albicaulis*

Note:
The gray wolf (*Canis lupus*) is listed as endangered in portions of Washington (west of State Route 97 from the Canadian border to Highway 17, west of Highway 17 to State Route 395, and west of State Route 395 to the Oregon border), Oregon (west of the of the center line of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon west of the center line of Highway 95 south of Burns Junction), and all of California [see 73 FR 10514]. One radio-collared wolf (OR-7) is known to have dispersed from northeastern Oregon through portions of many counties including Klamath and Jackson County in southern Oregon, and through portions of Siskiyou, Modoc, Shasta, Lassen, Plumas, and Tehama Counties in California. Please contact the U.S. Fish and Wildlife Service office issuing this list (see letterhead for contact information) with questions about the potential for gray wolf presence in proposed project areas.

Table 1.3 Listed, Endangered, Threatened, Proposed, and Candidate Species that May Occur in Modoc County, California

Status: *Endangered*

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Modoc sucker	*Catostomus microps*	Designated
Fish	Lost River sucker	*Deltistes luxatus*	Designated
Fish	Shortnose sucker	Chasmistes brevirostris	Designated
Plant	Green's tuctoria	*Tuctoria greenei*	Designated

Status: *Threatened*

Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	*Strix occidentalis caurina*	Designated
Bird	Yellow-billed cuckoo (Western DPS)	*Coccyzus americanus occidentalis*	Proposed
Amphibian	Oregon spotted frog	*Rana pretiosa*	Proposed
Plant	Slender Orcutt grass	*Orcuttia tenuis*	Designated

Status: *Proposed*

Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Fisher (West Coast DPS)	*Pekania pennanti*	

Status: *Candidate*

Phylum	Common Name	Scientific Name
Bird	Greater Sage-grouse	*Centrocercus urophasianus*
Plant	Soldier Meadow cinquefoil	*Potentilla basaltica*
Plant	Whitebark Pine	*Pinus albicaulis*

Note:

The gray wolf (*Canis lupus*) is listed as endangered in portions of Washington (west of State Route 97 from the Canadian border to Highway 17, west of Highway 17 to State Route 395, and west of State Route 395 to the Oregon border), Oregon (west of the of the center line of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon west of the center line of Highway 95 south of Burns Junction), and all of California [see 73 FR 10514]. One radio-collared wolf (OR-7) is known to have dispersed from northeastern Oregon through portions of many counties including Klamath and Jackson County in southern Oregon, and through portions of Siskiyou, Modoc, Shasta, Lassen, Plumas, and Tehama Counties in California. Please contact the U.S. Fish and

Wildlife Service office issuing this list (see letterhead for contact information) with questions about the potential for gray wolf presence in proposed project areas.

3.2.2 Environmental Consequences

No Action:

Under the No Action Alternative, Klamath Project facilities would only be used for storage and conveyance of Klamath Project water supplies. Klamath Project water users could still utilize Non-Project water sources, but would have to do so without the use of Klamath Project facilities. The status quo of historic Project water supply deliveries would continue and the No Action Alternative would have no effect on Federally-listed species or their critical habitat.

Proposed Action:

The potential impacts to all species included in Tables 1.1, 1.2 and 1.3, as a result of the Proposed Action, have been considered, and it has been determined that the Proposed Action would have no effect on these species or their habitats. There would be no change in land use patterns of cultivated or fallowed fields that have some value to listed species or to birds protected under the Migratory Bird Treaty Act (MBTA). Groundwater transported through Klamath Project facilities would use existing facilities, without any new construction, and would be limited in quantity to available excess capacity. Minimum water quality standards as defined in Appendix D and pursuant to the terms of the contract would ensure that inputs of Non-Project water do not degrade existing water quality. These conditions would ensure that there would be no direct or indirect impact to Federally-listed species or their critical habitat or other biological resources as a result of the Proposed Action.

3.2.3 Cumulative Impacts

As the Proposed Action is not expected to result in any direct or indirect impacts to biological resources, there would be no cumulative impacts.

3.3 Socioeconomic Resources

3.3.1 Affected Environment

The agricultural industry significantly contributes to the overall economic stability of the Klamath Basin. Water supplies, including Klamath Project water and Non-Project water resources, allow farmers to accurately plan for the types of crops they can grow and also allows them to secure loans to purchase agricultural supplies. The economic variance may include fluctuating agricultural prices, insect infestation, changing hydrologic conditions, increased fuel, and power costs.

3.3.2 Environmental Consequences

No Action:

Under the No Action Alternative, the local and regional agricultural economy would remain similar to existing conditions, which fluctuates with market and hydrologic conditions including on farm practices. In years of drought, with limited surface Project water supplies, farmers would be limited to conveyance of available surface water supplies and in some cases may need to temporarily fallow irrigable land while other farmers would place previously fallowed land back into production. The continued rotation of these farming practices would cause some fluctuations in agricultural production and local employment, but those changes would likely reflect those that occur under the existing conditions.

In the Klamath Basin's consecutive years of drought, (e.g., 2010, 2012, 2013, 2014, and 2015), some farmers, in some cases, would need to idle cropland because surface water is limited and no transport of Non-Project water (e.g., groundwater) through Federal facilities would occur. Idling could last for one year or multiple years depending on the length of the Project water shortage. Farm income and employment would potentially decrease as a result of cropland idling and limited ability to transfer available Non-Project water to Project or other approved lands. This would be an adverse effect to local and regional economics under the No Action Alternative.

Proposed Action:

Under the Proposed Action Alternative, there would be a reduced potential for involuntary curtailments due to limited surface water supplies. Non-Project water transfers under the Proposed Action would provide additional water supplies to users allowing optimization of existing supplies, thereby, potentially reducing the number of voluntary/involuntary idled farm/ranch land acres. Through conveyance of Non-Project, increased irrigation would allow for potential increases in land yields and farmer revenues, especially in years of limited surface water supplies. Farm employment could also increase as farmers produce more crops. This would be a beneficial effect to the regional economy. Non-Project water conveyed through Federal facilities could increase the overall water available water supply for Klamath Project water users reduce the need for drought mitigation measures or more expensive water supply alternatives.

3.4 Cultural Resources

3.4.1 Affected Environment

Cultural Resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects to an undertaking on cultural resources listed or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are eligible for inclusion in the National Register are referred to as historic properties.

3.4.2 Environmental Consequences

No Action:

Under the No Action Alternative, Reclamation would not issue excess capacity contracts to requesting contractors within the Klamath Project. The No Action Alternative consists of the continued operation of Klamath Project facilities strictly for delivery of Klamath Project water supplies. Therefore, there would be no change in cultural resources from current conditions under the No Action Alternative.

Proposed Action:

After coordination and consultation with the Reclamation's Mid-Pacific Region cultural resources staff, it has been determined that there would be no impacts to cultural resources as a result of implementing the Proposed Action. The Proposed Action would facilitate the flow of groundwater through existing facilities to established Klamath Project water users. No new construction or ground disturbing activities would occur as part of the Proposed Action. The storage and conveyance of Non-Project water would be confined to existing wells, pumps, and Klamath Project facilities. KBAO coordinated with Regional cultural resources staff who concluded on March 18, 2014, that the Proposed Action "does not have the potential to cause effects to historic properties pursuant to 36 CFR 800.39(a) (1). With this determination, Reclamation has no further NHPA Section 106 obligations" (Appendix B).

3.4.3 Cumulative Impacts:

As the Proposed Action is not expected to result in any direct or indirect impacts to cultural resources, there would be no cumulative impacts.

3.5: Indian Trust Assets

3.5.1 Affected Environment:

Indian Trust Assets (ITAs) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such as compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or a right to use something.

3.5.2 Environmental Consequences

No Action Alternative:

Under the No Action Alternative, Reclamation would not enter into excess capacity contracts with three irrigation districts. The No Action Alternative consists of the continued operation of Klamath Project facilities strictly for delivery of Klamath Project water supplies. Therefore, the status quo would continue and there would be no impacts to Indian Trust Assets.

Proposed Action:

Under the Proposed Action, the Districts would contract with Reclamation to store and/or convey Non-Project water through Klamath Project facilities as a means to supplement Klamath Project water supplies for established Klamath Project water users. After coordination with the Mid- Pacific Region Native American Affairs Coordinator, it was determined on December 17, 2014, that the Proposed Action does not have the potential to impact any Indian Trust Assets within the Klamath Project (Appendix C).

3.5.3 Cumulative Impacts

The Proposed Action is not expected to result in any direct or indirect impacts to Indian Trust Assets; there would be no cumulative impacts.

3.6 Greenhouse Gas and Climate Change

3.6.1 Affected Environment

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change (e.g., changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels) (EPA 2011a). Climate change implies a significant change having important economic, environmental, and social effects in a climatic condition such as temperature or precipitation. Climate change is generally attributed directly or indirectly to human activity that alters the composition of the global atmosphere, additive to natural climate variability observed over comparable time periods.

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO^2), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO^2, methane (CH^4), nitrous oxide, and fluorinated gases (EPA 2011a). GHG in the atmosphere allow short wavelength solar radiations to pass through the atmosphere to reach the earth's surface, but absorb the longer wavelength heat that is radiated back into the atmosphere from the earth. If the atmosphere concentration of greenhouse gases decreases over time, then more heat will escape through the atmosphere and the average temperature at the earth's surface will go down. If the GHG concentration in the atmosphere increases, however, less heat will escape to outer space and the average temperature at the earth's surface will increase.

3.6.2 Environmental Consequences

No Action

Under the No Action Alternative, Reclamation would not enter into excess capacity contracts. The No Action Alternative consists of the continued operation of Klamath Project facilities strictly for delivery of Klamath Project water supplies. Therefore, there would be no impacts to Climate Change or GHG from current operations under the No Action Alternative.

Proposed Action

Under the Proposed Action, Reclamation would enter into excess capacity contracts with three irrigation districts. Potential impacts to Climate Change or GHG could result from the use of pumps to pump groundwater in and out of Reclamation facilities. These impacts are difficult to quantify, since the power they use could come from a variety of locations and a variety of sources. However, the power required to operate the pumps is

not expected to represent an unusually large demand on the regional power grid, and should not cause any unexpected or unusual increase in emissions.

Furthermore, contracting irrigation districts would comply with applicable Federal, state, or local air pollution laws and regulations. Therefore, any impacts to GHG emissions would be expected to be insignificant due to the size and scope of the pumps, small change from current conditions, duration of use that is limited to the irrigation season, and compliance with pollution related laws and regulations.

3.6.3 Cumulative Impacts

As the Proposed Action is not expected to result in significant impacts to GHG and Climate Change there would be no significant cumulative impacts.

3.7 Environmental Justice

3.7.1 Affected Environment

Executive Order 12898 requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations.

3.7.2 Environmental Consequences

No Action

Without authorization to use Klamath Project facilities to store and/or convey Non-Project water, irrigators within the Klamath Project would have to find alternative means of accessing supplemental Non-Project water supplies. If alternative means of storage and/or conveyance could not be found, irrigators may take irrigated lands out of production. This result could be an adverse impact to wage earners in the area, since it would reduce employment opportunities.

Proposed Action

Under the Proposed Action, the availability of excess storage and conveyance capacity in Klamath Project facilities would help maintain agricultural production and local employment within the Klamath Basin. Employment opportunities for wage earners and minority population groups would be consistent with historical conditions.

3.7.3 Cumulative Impacts

Unusually dry conditions are putting pressure on irrigated agricultural operations throughout Oregon and California. The Proposed Action would assist landowners to minimize the adverse impacts associated with limited Klamath Project water supplies, while the No Action alternative would limit their ability to access supplemental Non-Project water supplies. Without the ability to access supplemental Non-Project water supplies the already-difficult economic conditions for irrigated agriculture could worsen. Since farm laborers often come from minority and low- income populations, environmental justice populations would disproportionately be affected by any changes in the area's agricultural conditions.

3.8 Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." The project would not impede use of, or access to sacred sites.

3.9 Environmental Commitments

Reclamation will include the following stipulations in the proposed excess capacity contracts in order to ensure the implementation of environmental commitments to reduce environmental consequences.

- Contracting irrigation districts would be required to confirm that the proposed pumping of groundwater is compatible with local groundwater management plans and state water law.
- Minimum water quality standards and monitoring requirements would be established by Reclamation pursuant to Section 3.1.2, and Appendix D of this document, including terms of the proposed contracts.
- Contracting irrigation districts would be responsible for accurate water measurement and associated costs, as well as assuring the Non-Project water meets Reclamation's minimum water quality standards for acceptance of Non-Project water into Klamath Project facilities (See Appendix D).
- Non-Project water stored and/or conveyed through Klamath Project facilities would only be used for irrigation purposes on established lands.
- There would be no new construction or excavation occurring as part of the Proposed Action. Storage and conveyance in Klamath Project facilities would occur through existing wells, meters, pipes, water diversion, and field delivery facilities.
- Contracting irrigation districts would comply with all applicable Federal, state, or local laws and regulations.

Section 4 Consultation and Coordination

This section presents the agencies and parties that were coordinated or consulted with during development of the document.

4.1 Public Review Period

Reclamation will provide the public with an opportunity to comment on the draft Finding of No Significant Impact (FONSI) and draft EA in May 2015. The public period will last for two weeks following issuance of a Reclamation news release. The draft EA and draft FONSI will be available online at: http://www.usbr.gov/mp/nepa/nepa_base.cfm?location=kbao, and in hardcopy at the following locations:

- Bureau of Reclamation, Klamath Basin Area Office
  6600 Washburn Way, Klamath Falls, Oregon 97603
- Klamath County Government Building
  305 Main Street, Klamath Falls, Oregon 97601
- Klamath Community College (library)
  7390 S 6th St, Klamath Falls, OR 97601
- Oregon Institute of Technology (Library)
  3201 Campus Dr, Klamath Falls, OR 97601
- Klamath County Library
  126 S. 3rd Street. Klamath Falls, Oregon 97601

4.2 Persons or Agencies Consulted During Development of EA

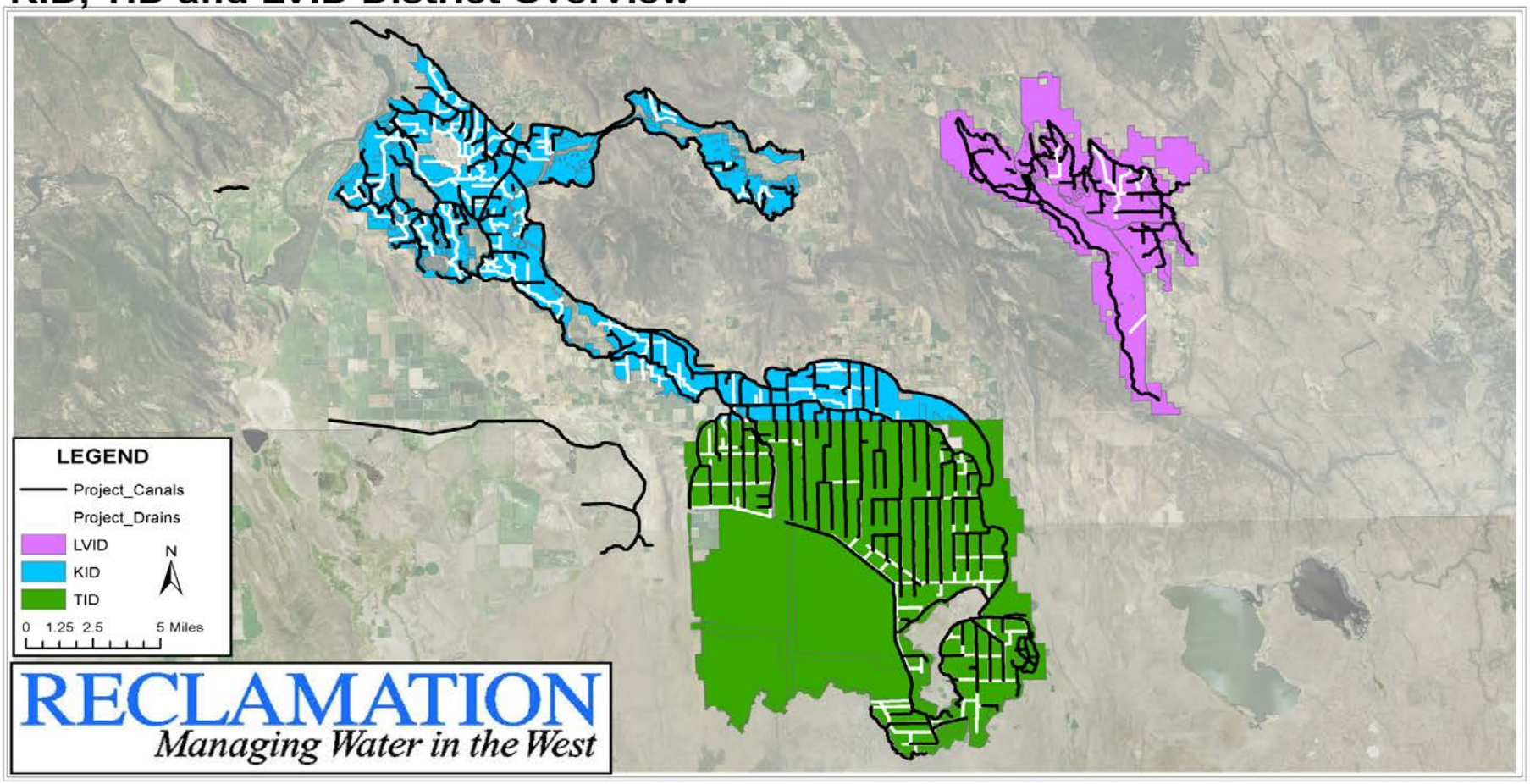
- Oregon Department of Environmental Quality
- North Coast Regional Water Quality Control Board

Section 5 References

Environmental Protection Agency (EPA). 2011a. Climate Change – Basic Information. Website: http://www.epa.gov/climatechange/basicinfo.html.

U.S. Fish and Wildlife Service, (2015). Information Resources: Listed, proposed, and Candidate Species Lists (Klamath County, Oregon, Modoc and Siskiyou counties, California) Website: http://www.fws.gov/klamathfallsfwo/es/es.html

Appendix A: Map - Klamath Project Districts for Excess Capacity Contracts



Appendix B: Cultural Resources Coordination and Compliance

CULTURAL RESOURCE COMPLIANCE
Reclamation Division of Environmental Affairs
MP-153

MP-153 Tracking Number: 14-KBAO-136

Project Name: Warren Act Contracts for Groundwater Transfers through Reclamation Facilities, Klamath Project

NEPA Document: CEC

NEPA Contact: Elizabeth Nielsen, Natural Resources Specialist

MP 153 Cultural Resources Reviewer: William Soule, Archaeologist

Date: 03/018/2014

Reclamation is proposing to issue Warren Act Contracts to water districts within the Klamath Project boundaries to allow these districts to deliver non-project groundwater through Reclamation facilities. This is the type of undertaking that does not have the potential to cause effects to historic properties, should such historic properties be present, pursuant to the National Historic Preservation Act (NHPA) Section 106 regulations codified at 36 CFR Part 800.3(a)(1).

Several water districts within the boundaries of Reclamation's Klamath Project have requested approval of five year Warren Act Contracts to pump groundwater into Klamath Project facilities to supplement their supply to avoid water shortage and potential loss of permanent crops. Execution of Warren Act contracts provides a mechanism to allow Non-Project Water (i.e. groundwater) in the Klamath Project facilities to supplement water supplies to maintain agriculture crops. Non-project water would be discharged into multiple Klamath Project facilities and would be pumped out of Klamath Project facilities downstream of where it was discharged. Pumps may be placed into Klamath Project facilities and would be connected to irrigation pipe that would transport the water. As the pumps are not expected to be permanent, there is no ground disturbance anticipated when placing the pumps and pipes in the irrigation facilities.

After reviewing the materials submitted by KBAO, I concur with a statement in the CEC for this action that it does not have the potential to cause effects to historic properties pursuant to 36 CFR § 800.3(a)(1). With this determination, Reclamation has no further NHPA Section 106 obligations. This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

CC: Cultural Resources Branch (MP-153), Anastasia Leigh – Regional Environmental Officer (MP-150)

KO-300 (Nielsen)
ENV-3.00

National Historic Preservation Act Compliance Request Form

(This form is to be used for actions that would relate only to the National Historic Preservation Act Section 106 as determined by either the bureau or office.)

****Please send your request to: BOR MPR Cultural Resources Section**
AREA OFFICE CONTROL NO:

DATE: 3/17/2014	**PROPOSING AGENCY/APPLICANT:** Klamath Basin Area Office
PROJECT: Groundwater Transfer through Reclamation Facilities	**REQUESTING OFFICE:** KBAO
LICENSE OR CONTRACT NUMBER:	**ANTICIPATED NEPA DOC TYPE:** Environmental Assessment
NATURE OF ACTION: D.10 – Reclamation Action: The Klamath Basin Area Office is proposing to issue Warren Act Contractors to water districts in the Klamath Project to allow for non-project groundwater deliveries through Reclamation facilities	
PROJECT LOCATION (Township, Range & Section or XY cords) Multiple Locations (including Klamath Irrigation District, Tulelake Irrigation District, Langell Valley Irrigation District)	
COST AUTHORITY NO: Fund: 14XR0680A1 WBS: RX.00124955.0000000	**COST CENTER:**
7.5 MINUTE QUAD MAP: 42121 B7 –, LOWER KLAMATH LAKE, A7 – WORDEN, B6 – ALTAMONT, A6 – LOST RIVER, B5 – DAIRY, A5 – MERRILL, B4 – BONANZA, A4 – MALIN, B3 – LORELLA, A3 – BRYANT MOUNTAIN, B2 – GOODLOW MOUNTAIN, A2 – LANGELL VALLEY, B1 – GERBER RESERVOIR, A1 – BRADY BUTTE **41121 H7 – SHEEPY LAKE, H6 – LOWER KLAMATH LAKE, H5 – HATFIELD, H4 – TULELAKE, H3 – NEWELL, H2 – CAR BUTTE, H1 – SAGEBRUSH BUTTE**	
DETAILED PROJECT DESCRIPTION: The Klamath Basin Area Office is proposing to issue Warren Act Contracts to water districts within the Klamath Project boundaries. These Warren Act contracts would allow the water districts to deliver non-project groundwater through Reclamation facilities. These contracts would be valid for five years from 2014 through 2018. Several water districts within the boundaries of Reclamation's Klamath Project request approval of five year Warren Act Contracts to pump groundwater into Klamath Project facilities to supplement their supply to avoid water shortage and potential loss of permanent crops. Oregon and California have experienced droughts that have reduced water supplies to many water districts in throughout the states in the past and are likely to be impacted by such conditions in the future. Additionally, the Klamath Project is currently experiencing a drought and it is likely that the water districts will have a limited water supply for irrigation. Execution of Warren Act contracts provides a mechanism to allow Non-Project Water (i.e. groundwater) in the Klamath Project facilities to supplement water supplies to maintain agriculture crops in times of greatest need. Non-project water would be diverted into multiple Klamath Project facilities and would be pumped out of Klamath Project facilities downstream of where it was diverted. Pumps may be placed into Klamath Project facilities and would be connected to irrigation pipe that would transport the water. As the pumps are not expected to be permanent, there is no ground disturbance anticipated when placing the pumps and pipes in the irrigation facilities.	
ADDITIONAL INFORMATION:	

Appendix C: Indian Trust Asset Coordination and Consultation

Nielsen, Elizabeth <ehnielsen@usbr.gov>

Re: ITA Request - Klamath Project Warren Act Contracts

1 message

RIVERA, PATRICIA <privera@usbr.gov> Wed, Dec 17, 2014 at 11:35 AM
To: "Nielsen, Elizabeth" <ehnielsen@usbr.gov>
Cc: Kristi Seabrook <kseabrook@usbr.gov>

Elizabeth,

I reviewed the proposed action to issue Warren Act Contracts to water districts within the Klamath Project boundaries. These Warren Act contracts would allow the water districts to deliver non-project groundwater through Reclamation facilities. These contracts would be valid for five years from 2015 through 2019.

Several water districts within the boundaries of Reclamation's Klamath Project request approval of five year Warren Act Contracts to pump groundwater into Klamath Project facilities to supplement their supply to avoid water shortage and potential loss of permanent crops. Oregon and California have experienced droughts that have reduces water supplies to many water districts throughout the states in the past and are likely to be impacted by such conditions in the future. Additionally, the Klamath Project is currently experiencing a drought and it is likely that the water districts will have a
limited water supply for irrigation. Execution of Warren Act contracts provide a mechanism to allow Non-Project Water (I.e. groundwater) in the Klamath Project to supplement water supplies to maintain agriculture crops in times of greatest need.

Non-project water would be diverted into multiple Klamath Project facilities and would be pumped out of Klamath Project facilities downstream of where it was diverted. Pumps may be placed into Klamath Project facilities and would be connected to irrigation pipe that would transport the water. As the pumps are not expected to be permanent, there is no ground disturbance anticipated when placing the pumps and pipe in irrigation facilities.

The proposed action does not have a potential to impact Indian Trust Assets.

Patricia Rivera
Native American Affairs Program Manager
US Bureau of Reclamation
Mid-Pacific Region
2800 Sacramento, California 95825
(916) 978-5194

Kristi please log in. No further action needed. Thanks

Indian Trust Assets
Request Form

**Please send your request to: Patricia Rivera, privera@usbr.gov - cc to Diane Williams, marywilliams@usbr.gov and Kristi Seabrook, kseabrook@usbr.gov .

Date: 12/17/2014

Requested by	Elizabeth Nielsen
Cost Authority	14XR0680A1, RX.00124955.0000000
Cost Center	2530000
Region # if other than MP	
Project Name	Groundwater Transfer through Reclamation Facilities
CEC or EA Number	EA-2014-01
Project Description	The Klamath Basin Area Office is proposing to issue Warren Act Contracts to water districts within the Klamath Project boundaries. These Warren Act contracts would allow the water districts to deliver non-project groundwater through Reclamation facilities. These contracts would be valid for five years from 2015 through 2019. Several water districts within the boundaries of Reclamation's Klamath Project request approval of five year Warren Act Contracts to pump groundwater into Klamath Project facilities to supplement their supply to avoid water shortage and potential loss of permanent crops. Oregon and California have experienced droughts that have reduces water supplies to many water districts throughout the states in the past and are likely to be impacted by such conditions in the future. Additionally, the Klamath Project is currently experiencing a drought and it is likely that the water districts will have a limited water supply for irrigation. Execution of Warren Act contracts provide a mechanism to allow Non-Project Water (I.e. groundwater) in the Klamath Project to supplement water supplies to maintain agriculture crops in times of greatest need. Non-project water would be diverted into multiple Klamath Project facilities and would be pumped out of Klamath Project facilities downstream of where it was diverted. Pumps may be placed into Klamath Project facilities and would be connected to irrigation pipe that would transport the water. As the pumps are not expected to be permanent, there is no ground disturbance anticipated when placing the pumps and pipe in irrigation facilities.
***Project Location (Township, Range, Section, e.g., T12 R5E S10, or XY cords)**	Multiple locations throughout the entire Klamath Project (including Klamath Irrigation District, Tulelake Irrigation District, and Langell Valley Irrigation District)

Appendix D: Water Quality Standards and Testing

Oregon Water Quality Standards

Constituent	Units	Maximum Concentration	Desired Limit for Reporting	CAS Registry Number	Analytical Method
Alkalinity	µg/L	20,000 (1)	0.005		SM 2320 A
Aluminum	µg/L	750 (2)	50	7429-90-5	EPA 200.7
Ammonia	mg TAN/L	1.0 to 7.3 (2) dependent upon temp. and pH	0.05	7664-41-7	EPA 350.1
Antimony	µg/L	5.1 (1)	6	7440-36-0	EPA 200.8
Arsenic	µg/L	10 (2)	2	7440-38-2	EPA 200.8
Barium	µg/L	1000 (1)	100	7440-39-3	EPA 200.7
Beryllium	µg/L	5.3 (1)	1	7440-41-7	EPA 200.7
Bicarbonate	µg/L	61,000 (4)	0.005	71-52-3	SM 2320 B
Boron	µg/L	700 (3)	200	7440-42-8	EPA 200.7
~~Cadmium~~	µg/L	~~5 (2)~~	~~1~~	~~7440-43-9~~	~~EPA 200.7~~
Chloride	µg/L	40,000 (4)	500	16887-00-6	EPA 300.1
Chromium, total	µg/L	100 (2)	10	7440-47-3	EPA 200.7
Cobalt	µg/L	50 (3)	10	7440-48-4	EPA 200.8
Copper	µg/L	1300 (1)	50	7440-50-8	EPA 200.7
Dissolved Oxygen	mg/L	5 (2)	0.05		
Iron	µg/L	1000 (1)	5	7439-89-6	EPA 200.7
Lead	µg/L	15 (2)	1	7439-92-1	EPA 200.8
Magnesium	µg/L	16,000 (4)	100	7439-96-4	EPA 200.7
Manganese	µg/L	50 (2)	1	7439-96-5	EPA 200.7
Mercury	µg/L	2 (2)	1	7439-97-6	EPA 245.1
Molybdenum	µg/L	10 (3)	10	7439-98-7	EPA 200.7
Nickel	µg/L	140(1)	10	7440-02-0	EPA 200.7
Nitrate + Nitrite as N	µg/L	10,000 (2)	10	7727-37-9	EPA 300.1
Orthophosphate	µg/L	50 (2)	10	14265-44-2	EPA 365.1
pH	units	6.5 to 9			EPA 150.1
Selenium	µg/L	4.6 (1)	2	7782-49-2	EPA 200.8
Silver	µg/L	100 (2)	10	7440-22-4	EPA 200.7
Sodium	µg/L	69,000 (3)	500	7440-23-5	EPA 200.7
Specific Conductance	µS/cm	1000 (2)	2		SM 2510B
Sulfate	µg/L	500,000 (2)	500	14808-79-8	EPA 300.1
Total Phosphorus	µg/L	110 (6)	10	14265-44-2	EPA 365.3
Total Dissolved Solids	µg/L	450,000 (3)	10,000		
Temperature	°C	No measurable increase	0.05		
Thallium	µg/L	2 (2)	1	7440-28-0	EPA 200.8
Vanadium	µg/L	100 (3)	10	7440-62-2	EPA 200.8
Zinc	µg/L	2100(1)	30	7440-66-6	EPA 200.7

(1) Oregon Department of Environmental Quality Division 41, Water Quality Standards: Beneficial Uses, Policies, and Criteria
(2) National Maximum Contaminant Level or National Recommended Quality Criteria, EPA
(3) Ayers, R. S. and D. W. Westcot, 1985. *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome.
(4) Spectrum Analytic, Inc. Guide to Interpreting Irrigation Water Analysis. Washington C.H., Ohio*http://www.spectrumanalytic.com/support/library/rf/A_Guide_to_Interpreting_Irrigation_Water_Analysis.htm*
(5) Moyl Moyle, P. B. 2002. Inland fishes of California. Revised and expanded edition.
(6) Oregon Department of Environmental Quality, Upper Klamath Lake Total Maximum Daily Load, 2002.

California Water Quality Standards

Constituent	Units	Maximum Concentration	Detection Limit for Reporting	CAS Registry Number	Analytical Method
Alkalinity	µg/L	20,000 as CaCO3 (1)			
Aluminum	µg/L	1000 (1)	50	7429-90-5	EPA 200.7
Ammonia as N	mg TAN/L	7.3 to 1.0 (5) dependent upon temp. and pH			EPA 350.1
Antimony	µg/L	6 (1)	6	7440-36-0	EPA 200.8
Arsenic	µg/L	10 (1)	2	7440-38-2	EPA 200.8
Barium	µg/L	1000 (1)	100	7440-39-3	EPA 200.7
Beryllium	µg/L	4 (1)	1	7440-41-7	EPA 200.7
Bicarbonate	µg/L	61,000 (4)		71-52-3	SM 2320 A
Boron	µg/L	500 (2)		7440-42-8	EPA 200.7
Cadmium	µg/L	5 (1)	1	7440-43-9	EPA 200.7
Chloride	µg/L	40,000 (4)		16887-00-6	EPA 300.1
Chromium, total	µg/L	50 (1)	10	7440-47-3	EPA 200.7
Cobalt	µg/L	50 (3)			
Copper	µg/L	1000 (2)	50	7440-50-8	EPA 200.7
Dissolved Oxygen	mg/L	5 (2)			
Hardness	µg/L	400,000 (2)			Calculated
Iron	µg/L	300 (1)	5	7439-89-6	EPA 200.7
Lead	µg/L	15 (1)		7439-92-1	EPA 200.8
Magnesium	µg/L	16,000 (5)		7439-96-4	EPA 200.5
Manganese	µg/L	50 (1)	1	7439-96-5	EPA 200.7
Mercury	µg/L	2 (1)		7439-97-6	EPA 245.1
Molybdenum	µg/L	10 (3)	10	7439-98-7	EPA 200.7
Nickel	µg/L	100(1)		7440-02-0	EPA 200.7
Nitrate + Nitrite as N	µg/L	10,000 (1)			
Orthophosphate	µg/L	50 (5)			
pH	units	7 to 9 (2)			EPA 150.1
Selenium	µg/L	5 (1)		7782-49-2	
Silver	µg/L	100 (1)		7440-22-4	EPA 200.7
Sodium	µg/L	69,000 (3)		7440-23-5	EPA 200.7
Specific Conductance	µS/cm	1000 (2)			SM 2510B
Sulfate	µg/L	250,000 (1)		14808-79-8	EPA 300.1
Total Phosphorus	µg/L	100 (5)			
Total Dissolved Solids	µg/L	450,000 (3)			
Temperature	^{o} Fahrenheit	< 5^{o}F above natural receiving water temp.			
Thallium	µg/L	2 (1)		7440-28-0	EPA 200.8
Vanadium	µg/L	100 (3)		7440-62-2	EPA 200.8
Zinc	µg/L	5000 (1)	1	7440-66-6	EPA 200.7

(1) Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.
(2) California Regional Water Quality Control Board, North Coast Region, Water Quality Control Plan for the North Coast Region.
(3) Ayers, R. S. and D. W. Westcot, *Water Quality for Agriculture* , Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985).
(4) Spectrum Analytic, Inc. Guide to Interpreting Irrigation Water Analysis. Washington C.H., Ohio*http://www.spectrumanalytic.com/support/library/rf/A_Guide_to_Interpreting_Irrigation_Water_Analysis.htm*
(5) National Recommended Quality Criteria , EPA

Approved Laboratory List for the Mid-Pacific Region Environmental Monitoring Branch (MP-157)

APPL Laboratory	**Address**	908 North Temperance Avenue, Clovis, CA 93611
	Contact	Renee' Patterson, Project Manager
	P/F	(559) 275-2175 / (559) 275-4422
	Email	rpatterson@applinc.com; danderson@applinc.com;
	Methods	*Approved for inorganic and organic parameters in water and soil*

Basic Laboratory	**Address**	2218 Railroad Avenue Redding, CA 96001 USA
	Contact	Josh Kirkpatrick, Nathan Hawley, Melissa Hawley
	P/F	(530) 243-7234 / (530) 243-7494
	Email	jkirkpatrick@basiclab.com (QAO and PM); nhawley@basiclab.com, mhawley@basiclab.com (invoices); poilar@basiclab.com (sample custody), khawley@basiclab.com (sample custody)
	Methods	*Approved for inorganic/organic parameters*

California Laboratory Services	**Address**	3249 Fitzgerald Road Rancho Cordova, CA 95742
	Contact	Scott Furnas
	P/F	(916) 638-7301 / (916) 638-4510
	Email	janetm@californialab.com (QA); scottf@californialab.com (PM)
	Methods	*Approved for inorganic, organic, and microbiological parameters*

Calscience Environmental Laboratories	**Address**	7440 Lincoln Way; Garden Grove, CA 92841
	Contact	Don Burley
	P/F	714-895-5494 (ext. 203)/714-894-7501
	Email	DBurley@calscience.com
	Methods	*Approved for inorganic and organic parameters in water, sediment, and soil.*

Caltest Analytical Laboratory	**Address**	1885 N. Kelly Rd. Napa, CA 94558
	Contact	Mike Hamilton, Patrick Ingram (Lab Director)
	P/F	(707) 258-4000/(707) 226-1001
	Email	Mike_Hamilton@caltestlabs.com; Patrick_Ingram@caltestlabs.com info@caltestlabs.com
	Methods	*Approved for inorganic and microbiological parameters*

Dept. of Fish & Game - WPCL	**Address**	2005 Nimbus Road Rancho Cordova, CA 95670 USA
	Contact	David B. Crane - Laboratory Director, Patty Bucknell - Inorganic Chemist (916) 358-4398
		Gail Chow - QA Manager + re-analysis requests (916) 358-2840
	P/F	(916) 358-2858 / (916) 985-4301, Sample Receiving: (916) 358-0319 Scott or Mary
	Email	dcrane@ospr.dfg.ca.gov; pbucknell@ospr.dfg.ca.gov; gcho@ospr.dfg.ca.gov
	Methods	*Approved only for metals analysis in tissue, organics pending*

Eurofins Eaton Analytical, Inc. (formerly MWH Laboratories)	**Address**	750 Royal Oaks Drive Ste. 100 Monrovia, CA 91016 USA
	Contact	Linda Geddes (Project Manager), Rick Zimmer (quotes)
	P/F	(626) 386-1100, Linda - (626) 386-1163, Rick - (626) 386-1157
	Email	lindageddes@eurofinsus.com
	Methods	*Approved for all inorganic, organic, and radiochemistry parameters in water*

Fruit Growers Laboratory	**Address**	853 Corporation Street Santa Paula, CA 93060 USA
	Contact	David Terz, QA Director
	P/F	(805) 392-2024 / (805) 525-4172
	Email	davidt@fglinc.com
	Methods	*Approved for general physical analysis in soils and most inorganic and organic parameters in water and soil; not approved for mercury in water or silver in soil.*

Sierra Foothill Laboratory, Inc.

Address	255 Scottsville Blvd, Jackson, CA 95642
Contact	Sandy Nurse (Owner) or Karen Lantz (Program Manager)
P/F	(209) 223-2800 / (209) 223-2747
Email	sandy@sierrafoothilllab.com, CC: dale@sierrafoothilllab.com
Methods	*Approved for all inorganic parameters (except low level TKN), microbiological parameters, acute and chronic toxicity.*

South Dakota Agricultural Laboratories

Address	Brookings Biospace, 1006 32nd Avenue, Suites 103,105, Brookings, SD 57006-4728
Contact	Regina Wixon, Jessie Davis, Steven Hauger (sample custodian)
P/F	(605) 692-7325/(605) 692-7326
Email	regina.wixon@sdaglabs.com, annie.mouw@sdaglabs.com, emily.weissenfluh@sdaglabs.com, darin.wixon@sdaglabs.com
Methods	*Approved for selenium analysis*

TestAmerica

Address	880 Riverside Parkway West Sacramento, CA 95605 USA
Contact	Linda Laver
P/F	(916) 374-4362 / (916) 372-1059 fax
Email	Linda.Laver@TestAmericaInc.com
Methods	*Approved for all inorganic parameters and hazardous waste organics. Ag analysis in sediment, when known quantity is present, request 6010B*

Western Environmental Testing Laboratories

Address	475 East Greg Street # 119 Sparks, NV 89431 USA
Contact	Kurt Clarkson/Logan Greenwood (Client Services), Andy Smith (Lab Drctr)
P/F	(775) 355-0202 / (775) 355-0817
Email	kurtc@wetlaboratory.com, logang@wetlaboratory.com, andy@wetlaboratory.com
Methods	*Approved for inorganic parameters (metals, general chemistry) and coliforms.*

Approved Laboratory Matrix for the Mid-Pacific Region Environmental Monitoring Branch (MP-157)

Laboratory	Water					Sediment/Soil				Tissue /Vegetation	
	Inorganic	Organic	Micro-biological	Radio-chemistry	Toxicity	Inorganic	Organic	General physical	Toxicity	Inorganics	Organics
APPL Laboratory	X	X				X	X				
Basic Laboratory	X	X				X	X				
Block Environmental Services					X				X		
California Laboratory Services	X	X	X			X	X				
Calscience Environmental Laboratories	X	X				X	X				
Caltest Analytical Laboratory	X		X								
Dept. of Fish & Game - WPCL						X	pending			X	pending
Eurofins Eaton Analytical, Inc. (formerly MWH Laboratories)	X	X		X							
Fruit Growers Laboratory	X (not for mercury)	X				X (not for silver)	X	X			
Sierra Foothill Laboratory, Inc.	X (not for TKN)		X		X				X		
South Dakota Agricultural Laboratories	selenium					selenium				selenium	
Test America	X	X				X	X				
Western Environmental Testing Laboratories	X		X								